



Comptroller General
of the United States

Washington, D.C. 20548

Decision

Matter of: Halter Marine, Inc.

File: B-239119

Date: August 2, 1990

Brian A. Bannon, Esq., Dyer, Ellis, Joseph & Mills, for the protester.

Keith Dunn, Esq., and Catherine Rubino, Esq., Department of the Navy, for the agency.

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DIGEST

1. Exclusion of proposal from competitive range after two rounds of discussions was unobjectionable where agency reasonably relied on body of data presented in proposal and determined that proposal was technically unacceptable because it evidenced offeror's failure to satisfy a mandatory, material performance requirement.

2. Where revised proposal did not indicate that model test data values were being presented as substitute for values used in calculations in original proposal and did not include new calculations based on the model test values, agency reasonably concluded that the new data was being furnished to validate original calculations.

DECISION

Halter Marine, Inc. protests the exclusion of its proposal from the competitive range under request for proposals (RFP) No. N00024-89-R-2099(Q), issued by the Naval Sea Systems Command for high speed coastal patrol boats. Halter contends that the Navy unreasonably determined the firm's proposal to be technically unacceptable for failure to meet a speed requirement.

We deny the protest.

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BACKGROUND

The RFP contemplated the award of a firm, fixed-price contract for the design and construction of 11 patrol boats, with options for an additional 5 boats. The solicitation advised that the Navy's intent was to procure patrol boats that incorporated state-of-the art technical designs, in conjunction with proven-in-service, nondevelopmental technical capabilities. The solicitation provided for a two-step source selection process--only offerors submitting technical/management proposals found to be within the competitive range would be requested to submit price proposals. Technical proposals would be included in the competitive range based on overall scoring under specified evaluation factors (not relevant here), and based on demonstrated compliance with certain minimum performance requirements, including a maximum speed of 35 knots under specified conditions, the requirement at issue here. Offerors were to provide various calculations to support their technical proposals, including resistance and propulsion calculations necessary in determining maximum speed, and design descriptions and craft performance characteristics showing how the mandatory requirements would be met. Award was to be made on the basis of the best value to the government, price and other factors considered.

As background concerning the speed requirement, the parameters of a proposed design important in what speed the design achieves are total boat resistance (which is influenced by several factors, including bare hull resistance and the weight of the craft), propulsion (how efficiently the available ship's power is converted into a force to overcome resistance), and available horsepower (installed engine power). The calculation of these factors determines the required brake horsepower necessary to drive the boat at the maximum required speed.

The agency received nine proposals, including Halter's. Based on the initial technical evaluation, the agency determined that Halter's proposal contained major deficiencies, including a failure to meet the mandatory maximum speed requirement. In its initial proposal, Halter relied on Maritime Technology Monograph No. 4, entitled "The NPL High Speed Round Bilge Displacement Hull Series: Resistance, Propulsion, Manoeuvring and Seakeeping Data," published by the Royal Institution of Naval Architects (United Kingdom 1976), to estimate various numbers for the design performance of its proposed round bilge displacement hull boat. The NPL Paper provides the results of a series

of model tests, i.e., where a number of similar models were tested. A designer of similar hull forms can review such data and estimate values in its design such as the bare hull resistance at issue here.

The Navy advised Halter (in writing) of the deficiencies relative to the speed requirement, stating in part, in reference to "Craft Design," that:

"The documentation submitted in the proposal is not sufficient to demonstrate the proposed craft will achieve the required maximum speed and range. Further, evaluation of the available documentation provided throughout the proposal demonstrates that the craft as proposed does not meet the speed and range requirements"

The Navy also advised Halter, in reference to "Resistance and Propulsion Calculations," that certain calculations necessary to determine speed (e.g., speed versus power curves, and wind resistance calculations) had not been provided and, again, that the documentation in the proposal showed that the craft does not meet the speed requirement. Further, the Navy advised, referring to "Proposal Independent Weight Estimate [PIWE]," that the data in the proposal "indicates the craft will be significantly heavier than the current PIWE [in Halter's initial proposal] shows.

In response to the discussion questions, Halter submitted a revised proposal that included (among other information) calculations for the offered craft's resistance, including a bare hull resistance number based on the NPL Paper, and model test results for its actual hull design.^{1/} The Navy accepted this information as verifying the resistance calculations in Halter's initial proposal regarding bare hull resistance (one element in determining speed), but

^{1/} The difference between model tests and model test series, (i.e., the NPL Paper data) is that, in model tests, one model is built based on a specific hull form and that model is tested in a towing tank (a long tank of water through which the model is towed by a mechanical device). In model test series, a number of models, based on the same hull form, but with varying dimensions (such as different length to beam ratios), are tested in a towing tank. Model test series are performed so that boat designers can build a variety of different sized boats with the same hull form, and the boats will fall within the range of tested characteristics.

disagreed with the weight used by Halter in the model testing. The Navy thus reevaluated the speed of Halter's craft using a greater weight (180 long tons) and the bare hull resistance figures from the initial proposal, as verified in the revised proposal. Although this showed that the craft would meet the speed requirement, the agency noted that another element of this calculation, delivered efficiency, relating to propulsion of the craft, had been provided by the propeller manufacturer based on its experience with similar craft, with no supporting documentation; this again cast doubt on compliance with the speed requirement.

The Navy thus issued a second round of discussion questions to Halter, indicating in part that the derivation of certain values in the propulsion calculation had not been adequately documented and, again, that weight had been understated. In response, Halter revised its proposal to increase the weight (to 170 long tons), cited literature purportedly supporting its selection of the propulsion values in its initial proposal, and refined its delivered efficiency calculations. The Navy again rejected the revised weight as too low compared to its own determination (180 long tons), and rejected Halter's support for its propulsion values on the basis that the documentation provided related to a different hull type than Halter's.

The Navy proceeded to perform the speed calculations using NPL data to determine bare hull resistance and a combination of Halter's proposed values and NPL numbers. These calculations showed that Halter's proposed craft lacked the horsepower necessary to meet the 35 knot maximum speed requirement, and the Navy eliminated the firm's proposal from the competitive range as technically unacceptable on this basis. Price proposals from the offerors remaining in the competition have been received; award has not been made.

ARGUMENT

Halter argues that its proposed boat meets the speed requirement and should have been included in the competitive range. At issue is the parties' disagreement over the way the Navy used Halter's model test data in the evaluation of Halter's revised proposals, specifically, in the evaluation of the bare hull resistance of Halter's craft. The Navy used the NPL Paper data, not the model test data, in evaluating bare hull resistance since, as indicated above, it determined that the model test data had been intended, not as a source of values to be substituted into the calculations on which Halter's initial proposal design was

based, but as data tending to verify that the values Halter had selected from the NPL Paper were the correct ones for Halter's specific hull design.

Halter contends that it intended that the Navy base its bare hull resistance evaluation on the model test data--which, it contends, is widely recognized as superior to the NPL Paper data since it is based on testing of a scale model of the precise hull proposed rather than on one of six similar hulls--and submits that, had the Navy done so, its craft would have been determined to meet the speed requirement. The Navy's analysis of the firm's proposal using the NPL Paper data resulted in greater resistance and less delivered efficiency (relevant to the propulsion calculation) than Halter had calculated; this dissipated an 8.8 percent horsepower margin (i.e., beyond the horsepower necessary to drive the craft at 35 knots) that the firm claimed in its revised proposal. Halter asserts that it warned the Navy to use the model test data to determine hull resistance in the event the propulsion values ultimately used by the Navy decreased the calculated speed below 35 knots, since the model test data showed a lower bare hull resistance than the NPL Paper. Halter contends that this warning should have prompted the Navy to recalculate resistance using the model test data once the agency increased the propulsion values in the evaluation.

The Navy argues that if Halter believed that the model test data provided more accurate values for the bare hull resistance in the resistance portion of the speed calculations, Halter should have used the model test data itself in its first revised proposal, when it introduced the model test data. Absent reliance by Halter on the data or some other express indication that the firm intended that the model test data values for bare hull resistance be substituted for the NPL values in the resistance calculations, the Navy explains, it had no reason to view the data as being submitted for that purpose. Instead, the Navy insists that it reasonably assumed Halter was submitting the data to verify that it had selected the correct values from the NPL Paper in its original proposal. This was a logical assumption, the Navy believes, since Halter's initial proposal was based on NPL values due to the fact that its proposed hull was based on one of the tested model hulls from which the NPL values were derived.

ANALYSIS

The evaluation of proposals and determination of the competitive range are matters within the discretion of the contracting agency, since it is responsible for defining

its needs and deciding the best methods of accommodating them. Swiftships, Inc., B-235858, Oct. 13, 1989, 89-2 CPD ¶ 349. Since the evaluation of technical proposals is inherently a subjective process, in reviewing protests of allegedly improper evaluations, our Office will not substitute its judgment for that of the agency's evaluators, but will examine the record to determine whether the agency's judgment was reasonable and in accordance with the listed criteria and whether there were any violations of procurement statutes or regulations. Id.

We find that the Navy's use of the NPL Paper data in the bare hull resistance factor used in the resistance portion of the speed calculations was unobjectionable. To agree with Halter's contrary position, we would have to find that the Navy should have been aware that Halter intended the model test data submitted with its first revised proposal to be substituted for bare hull resistance in the resistance calculations. There is no basis for such a finding. As discussed, Halter based its initial proposal design, including its bare hull resistance in its resistance calculations, on the NPL data. Halter's first revised proposal did contain model test data that included different values for the bare hull resistance factor needed in the resistance calculations, but Halter did not perform new calculations using these new values, and the revised proposal nowhere instructed the Navy that the values were intended to be substituted into the calculations. Indeed, the recalculations Halter included in this revised proposal were based on the NPL data used in its original proposal.

At the same time, the record shows that the Navy had every reason to believe the model test data was being submitted to verify the values Halter selected from the NPL Paper. Halter indicated its design was based on a parent craft, but the Navy determined that the existing craft was not close enough in design to indicate the likely capabilities of the proposed craft. The calculations on which Halter's craft were based, including resistance, therefore relied on values derived from the NPL tests of similar craft, injecting additional risk into the design. The Navy viewed the model test data on bare hull resistance as meaningful because it verified through testing that the values Halter had selected from the NPL Paper for its resistance calculations were the correct ones for Halter's actual hull design. By establishing the validity of the resistance calculations, the Navy found, Halter had improved its proposal by eliminating some of the risk from its design.

There were other factors that contributed to the Navy's view of the model test data. The Navy noted that a graph included in the model test data indicated the model test results were very close to the NPL test results; this information, together with the fact that Halter did not perform new resistance calculations with the new bare hull values served to reinforce the Navy's perception that Halter was submitting the model test data solely to verify its original calculations. Further, the model test data was submitted in a section separate from the resistance calculations, and was actually described in the revised proposal as "validating" the design performance of the proposed craft.

Halter's proposal did not warn the Navy to substitute the model test data bare hull resistance values for the NPL Paper values in the resistance calculations. The first revised proposal merely describes the model tests as verifying that resistance is lower than predicted by the NPL Paper at speeds above 20 knots. Halter would have the Navy conclude from this statement that it therefore should substitute the number more favorable to Halter, but the statement includes no such instruction. Moreover, it was Halter's responsibility, not the Navy's, to perform any calculations it deemed necessary to demonstrate the acceptability of its proposal; if Halter believed the model test bare hull resistance values would result in more favorable resistance calculations, it should have provided the Navy with these calculations.

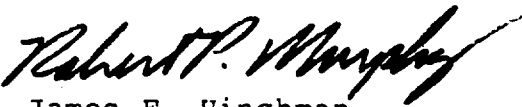
It is fundamental that an offeror has an obligation to submit a proposal which fully demonstrates the technical acceptability of its offered design. Addsco Indus., Inc., B-233693, Mar. 28, 1989, 89-1 CPD ¶ 317. Where an offeror fails to set forth clearly in its proposal technical information in a manner than convinces the procuring activity that the proposed design meets the agency's minimum needs, the agency may reasonably find that proposal technically unacceptable. See, Aydin Corp. (West), B-237450, Jan. 18, 1990, 90-1 CPD ¶ 69. It is clear that Halter did not fulfill its obligation to set forth its technical information in a manner that would allow the agency to understand how the firm's proposed craft meets the speed requirement. Even if Halter is ultimately correct that its proposed craft will meet the requirement, we cannot fault the agency evaluation when Halter did not fulfill its duty to present its technical information in a clear manner to demonstrate compliance with the requirement. There must be a conclusion to the evaluation process; to permit offerors to prolong the evaluation period by failing to submit proposal information when it is necessary for the

evaluation would prevent the agency from proceeding with the procurement in an orderly fashion.

Even if Halter had clearly presented the model test data, it is not clear that the Navy would have accorded it the weight Halter believes was warranted. Halter asserts that it generally is agreed in the scientific community that specific model test data is superior to more general test results such as those in the NPL Paper. The Navy explains, however, that since it did not view the model tests and there was no other independent verification included with the revised proposal, it would question the reliability of those results, at least compared to the NPL data; while the NPL test results were based on a series of similar hull designs rather than on Halter's specific hull, the NPL results are widely accepted as proven. The Navy thus does not agree that calculations based on the model test results would have rendered Halter's proposal acceptable, even if they indicated theoretically that the craft would meet the speed requirement.

We conclude that the Navy reasonably evaluated Halter's proposal based on the information presented and properly eliminated the proposal from the competitive range for failure to show compliance with the speed requirement.

The protest is denied.


for James F. Hinchman
General Counsel